

Micronutrient deficiencies in children during growth

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Understanding clinical nutrition

- Essential nutrients – water, **proteins**, fats, sugars, **vitamins and minerals**
- Protective foods – significant amount of antioxidants
vegetables, fruits (vitamins and minerals) egg, milk, meat
(high class proteins)
- Changing concepts of nutritional deficiencies
protein (kwashiorkor) – calorie (PEM) – individual
micronutrients (big three - vit A, iron, iodine) – multi-
micronutrients

Gaps in understanding micronutritional deficiencies

- Vague clinical profile other than anaemia and Bitot spots mostly multiple deficiencies together
- Subclinical deficiencies dependent on serum levels
- High prevalence in all socioeconomic groups
- Data on morbidity and mortality due to micronutrients
- Multiple factors intake, bioavailability, digestion, absorption, utilisation, balance between increased needs and losses
- Proper perspective in relevance to widely prevalent PEM

Understanding of genesis of micronutritional deficiencies

- Ignoring the role of health providers
- Problem of nutritional isolationism
- Neglect of other factors – health, water, sanitation, education, social protection
- Compounding factors – poverty, urbanisation, climate change, poor eating choices, lack of political will, community empowerment and equity to provide access to health and educational services and not enough food to eat

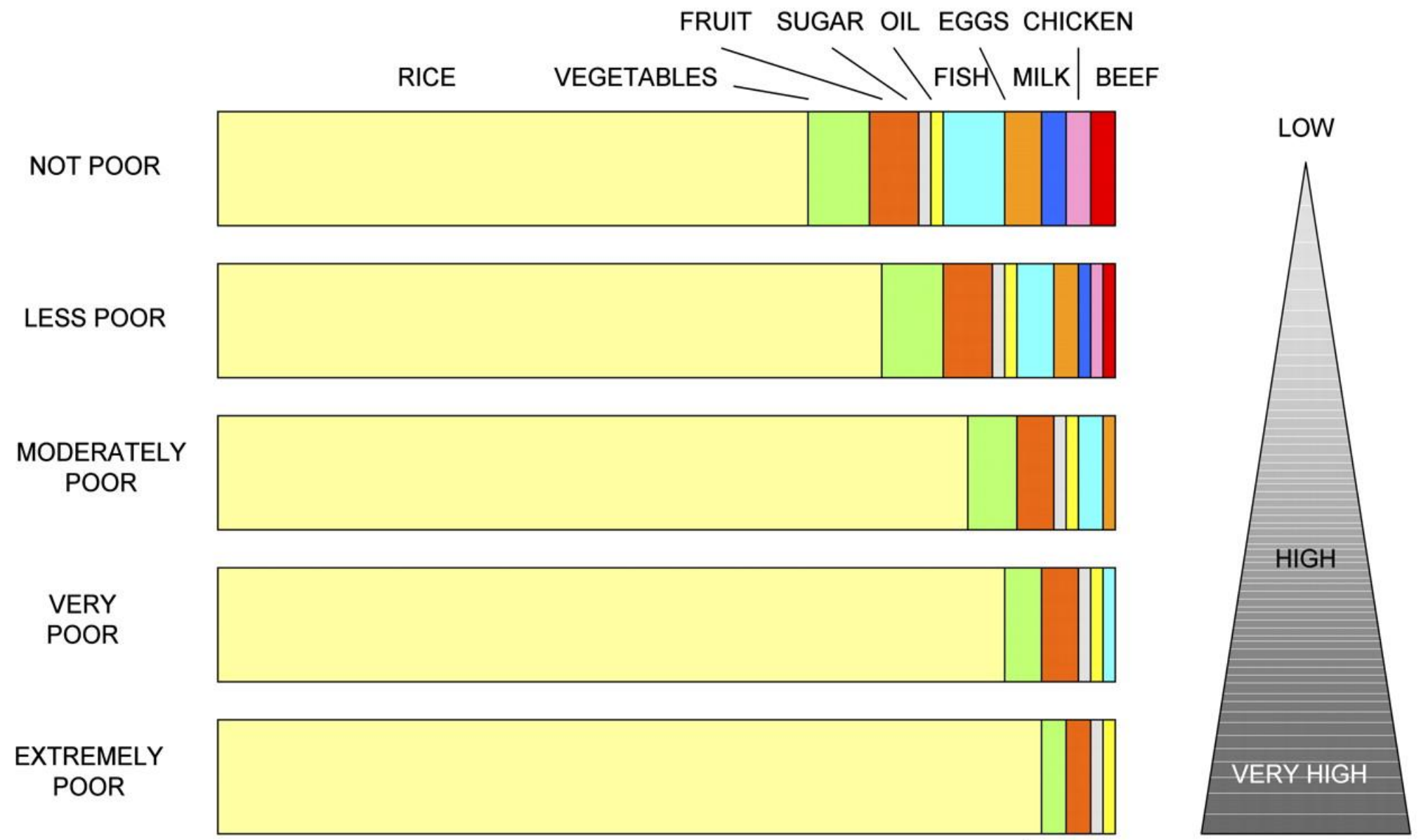
Effective application of knowledge

- Must use all human intelligence centres – brain, heart, gut
- Health and nutrition education
right content for right purpose to right group at right time
consider local habits and affordable (budget-centric), accessible and available foods, dietary diversity, preservation techniques – soaking and decanting, germination and fermentation,
- Supplementation to susceptible population
- Food based strategies of increasing production and consumption
- Fortification – limitations and challenges

SOCIOECONOMIC STATUS

RELATIVE COMPOSITION OF THE DIET

RISK OF MICRONUTRIENT DEFICIENCIES



RICE

VEGETABLES / FRUIT / OIL / SUGAR